

Claims:

1. A method of motion-compensated predictive image encoding, comprising the steps of:
  - estimating (ME) first motion vectors (MVc, MVl, MVr, MVa, MVb) for first objects (16\*16);
  - 5 filtering (MVPF) said first motion vectors (MVc, MVl, MVr, MVa, MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for second objects (8\*8), said second objects (8\*8) being smaller than said first objects (16\*16);
  - generating (3) prediction errors in dependence on said second motion vectors (MV1, MV2, MV3, MV4); and
  - 10 combining (VLC) said first motion vectors (MVc, MVl, MVr, MVa, MVb) and said prediction errors.
2. A method as claimed in claim 1, wherein said first objects (16\*16) are macro-blocks, said second objects (8\*8) are blocks, and said filtering step (MVPF) comprises the steps of:
  - 15 providing x and y motion vector components of a given macro-block (MVc) and of macro-blocks (MVl, MVr, MVa, MVb) adjacent to said given macro-block (MVc); and
  - supplying for each block (MV1) of a number of blocks (MV1-MV4) corresponding to said given macro-block (MVc), x and y motion vector components
  - 20 respectively selected from said x and y motion vector components of said given macro-block (MVc) and from the x and y motion vector components of two blocks (MVl, MVa) adjacent to said block (MV1).



3. A device for motion-compensated predictive image encoding, comprising:  
means for estimating (ME) first motion vectors (MVc, MVl, MVr, MVa, MVb)  
for first objects (16\*16);  
means for filtering (MVPF) said first motion vectors (MVc, MVl, MVr, MVa,  
5 MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for second objects (8\*8),  
said second objects (8\*8) being smaller than said first objects (16\*16);  
means for generating (3) prediction errors in dependence on said second motion  
vectors (MV1, MV2, MV3, MV4); and  
means for combining (VLC) said first motion vectors (MVc, MVl, MVr, MVa,  
10 MVb) and said prediction errors.
4. A method of motion-compensated predictive decoding, comprising the steps of:  
generating (VLC<sup>-1</sup>) first motion vectors (MVc, MVl, MVr, MVa, MVb) and  
prediction errors from an input bit-stream, said first motion vectors (MVc, MVl, MVr,  
15 MVa, MVb) relating to first objects (16\*16);  
filtering (MVPF) said first motion vectors (MVc, MVl, MVr, MVa, MVb) to  
obtain second motion vectors (MV1, MV2, MV3, MV4) for second objects (8\*8), said  
second objects (8\*8) being smaller than said first objects (16\*16); and  
generating (15, MC) an output signal in dependence on said prediction errors  
20 and said second motion vectors (MV1, MV2, MV3, MV4).
5. A method as claimed in claim 4, wherein said first objects (16\*16) are macro-  
blocks, said second objects (8\*8) are blocks, and said filtering step (MVPF) comprises the  
steps of:  
25 providing x and y motion vector components of a given macro-block (MVc) and  
of macro-blocks (MVl, MVr, MVa, MVb) adjacent to said given macro-block (MVc); and  
supplying for each block (MV1) of a number of blocks (MV1-MV4)  
corresponding to said given macro-block (MVc), x and y motion vector components  
respectively selected from said x and y motion vector components of said given macro-block  
30 (MVc) and from the x and y motion vector components of two blocks (MVl, MVa) adjacent  
to said block (MV1).



6. A device for motion-compensated predictive decoding, comprising:  
means for generating (VLC<sup>-1</sup>) first motion vectors (MVc, MVl, MVr, MVa, MVb) and prediction errors from an input bit-stream, said first motion vectors (MVc, MVl, MVr, MVa, MVb) relating to first objects (16\*16);

5 means for filtering (MVPF) said first motion vectors (MVc, MVl, MVr, MVa, MVb) to obtain second motion vectors (MV1, MV2, MV3, MV4) for second objects (8\*8), said second objects (8\*8) being smaller than said ~~first~~ objects (16\*16); and

means for generating (15, MC) an output signal in dependence on said prediction errors and said second motion vectors (MV1, MV2, MV3, MV4).

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7. A multi-media apparatus, comprising:

means (T) for receiving a motion-compensated predictively encoded image signal; and

15 a motion-compensated predictive decoding device as claimed in claim 6 for generating a decoded image signal.

8. An image signal display apparatus, comprising:

means (T) for receiving a motion-compensated predictively encoded image signal;

20 a motion-compensated predictive decoding device as claimed in claim 6 for generating a decoded image signal; and

means (D) for displaying said decoded image signal.

9. A motion-compensated predictively encoded image signal, comprising:

25 motion vectors (MVc, MVl, MVr, MVa, MVb) relating to first objects (16\*16); and

prediction errors relating to second objects (8\*8), said second objects (8\*8) being smaller than said first objects (16\*16), wherein said prediction errors depend on motion vectors for said second objects (8\*8).